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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,137	09/18/2003	Torsten Gerlich	331.1050	5808
23280	7590	02/25/2005	EXAMINER KITOV, ZEEV	
DAVIDSON, DAVIDSON & KAPPEL, LLC 485 SEVENTH AVENUE, 14TH FLOOR NEW YORK, NY 10018			ART UNIT 2836	PAPER NUMBER

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,137

Applicant(s)

GERLICH ET AL.

Examiner

Zeev Kitov

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/18/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Maller (US 6,256,185). Regarding Claim 1, Maller discloses all the elements of the claim including a power source for supplying the solenoid with electricity (element 14 in Fig. 4); a control unit (elements U1A and U1B in Fig. 4) generating pulse-width-modulated signals (col. 2, lines 53 – 65); a switching device (elements Q2 and Q3 in Fig. 4), the solenoid capable receives the pulse-width-modulated signals of the control unit via the switching device; and a suppression device (elements D3 and Z3 in Fig. 4) suppressing high induced voltages at the solenoid.

Regarding Claim 2, Maller discloses the suppression device as a free-wheeling diode (element D3 in Fig. 4) connected in parallel to the solenoid.

Regarding Claim 7, Maller discloses the switching device as a power transistor (elements Q2 and Q3 in Fig. 4).

Regarding Claim 8, Maller discloses a diode (element Z3 in Fig. 4) connected in parallel to the power transistor.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maller in view of Klotz et al. (US 4,915,204). As was stated above, Maller discloses all the elements of Claim 1. However, regarding Claim 5, it does not disclose the power source including the vehicle's electrical system. Since the Klotz et al. invention is intended for use for motor vehicle (col. 1, lines 7 – 15), its solenoid valve actuation system (element 3280 in Fig. 27B) is inherently fed by the vehicle's electrical system. Both references have the same problem solving area, namely providing solenoid valve activation system. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the modified Maller by applying it in the motor vehicle engine system, because such application would substantially expand the market of the Maller control system manufacturer.

Regarding Claim 6, Klotz et al. disclose the solenoid valve actuation system (elements 3250 and 3280 in Fig. 27B, col. 108, lines 22 - 35), which is a part of transmission control system (element 3050 in Fig. 27A) controlled in turn by the engine controller (element 3020 in Fig. 27A, col. 45, line 42 – col. 47, line 46). A motivation for modification of the primary reference is the same as above.

Claims 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maller in view of Stumpf (US 4,851,959). As was stated above, Maller discloses all the elements of Claim 1. However, regarding Claims 3 and 4, it does not disclose a particular frequency of the solenoid activation. Stumpf discloses the frequency of the solenoid valve activation as 70 Hz (see Fig. 5 and 6), thus satisfying Claim 3 limitations. Both references have the same problem solving area, namely providing solenoid valve activation system. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Maller solution by setting the activation frequency to 70 Hz according to Stumpf, because as Stumpf state (col. 1, line 67 – col. 2, line 6), such selection of frequency is necessary to cause a series resonance in the LC tank, which is further used for detection of a plunger position.

As per 4, it differs from Claim 3 rejected accordingly by its activation frequency value equal to 50 Hz. Stumpf states that the frequency is selected to satisfy conditions of series resonance in the LC tank of the activation circuit (elements 14 and 25 in Fig. 4). It is clear therefore, that with a change of the solenoid inductance and the capacitor value, the frequency should be adjusted accordingly. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the activation frequency to some specific value according to Stumpf (including 70 Hz), because as Stampf states (col. 1, line 67 – col. 2, line 6), the frequency is to be set such to satisfy conditions of a series resonance in the LC tank, which is further used for detection of a plunger position. For particular combination of the inductance and capacitance, 70 Hz is right value.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose current telephone number is (571) 272 - 2052. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (703) 872-9306 for all communications.

Z.K.
02/10/2005



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